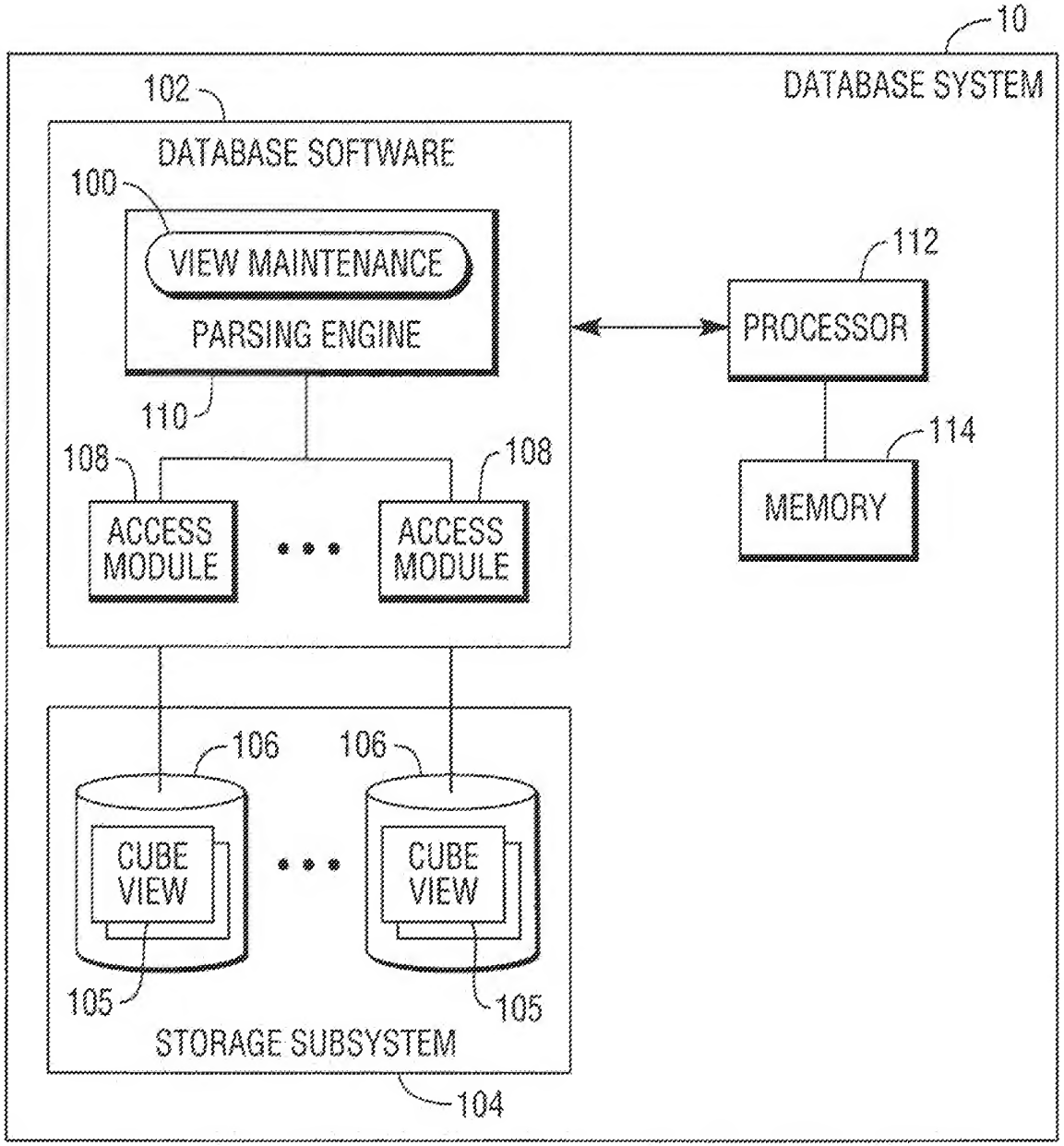

10
DATABASE SYSTEM
102
DATABASE SOFTWARE
100
VIEW MAINTENANCE
PARSING ENGINE
110
108
108
ACCESS MODULE
ACCESS MODULE
112
PROCESSOR
114
MEMORY
106
106
CUBE VIEW
CUBE VIEW
105
105
STORAGE SUBSYSTEM
104

FIG. 1

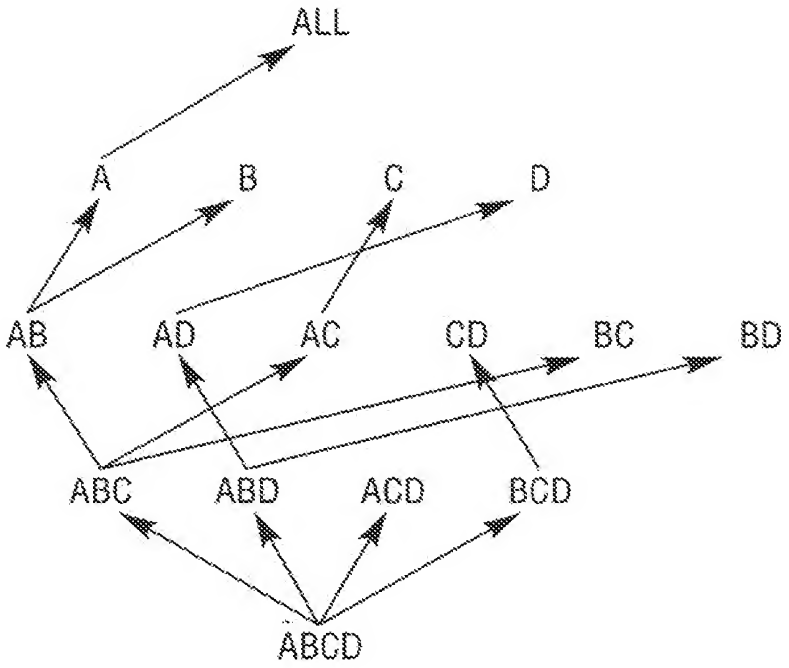
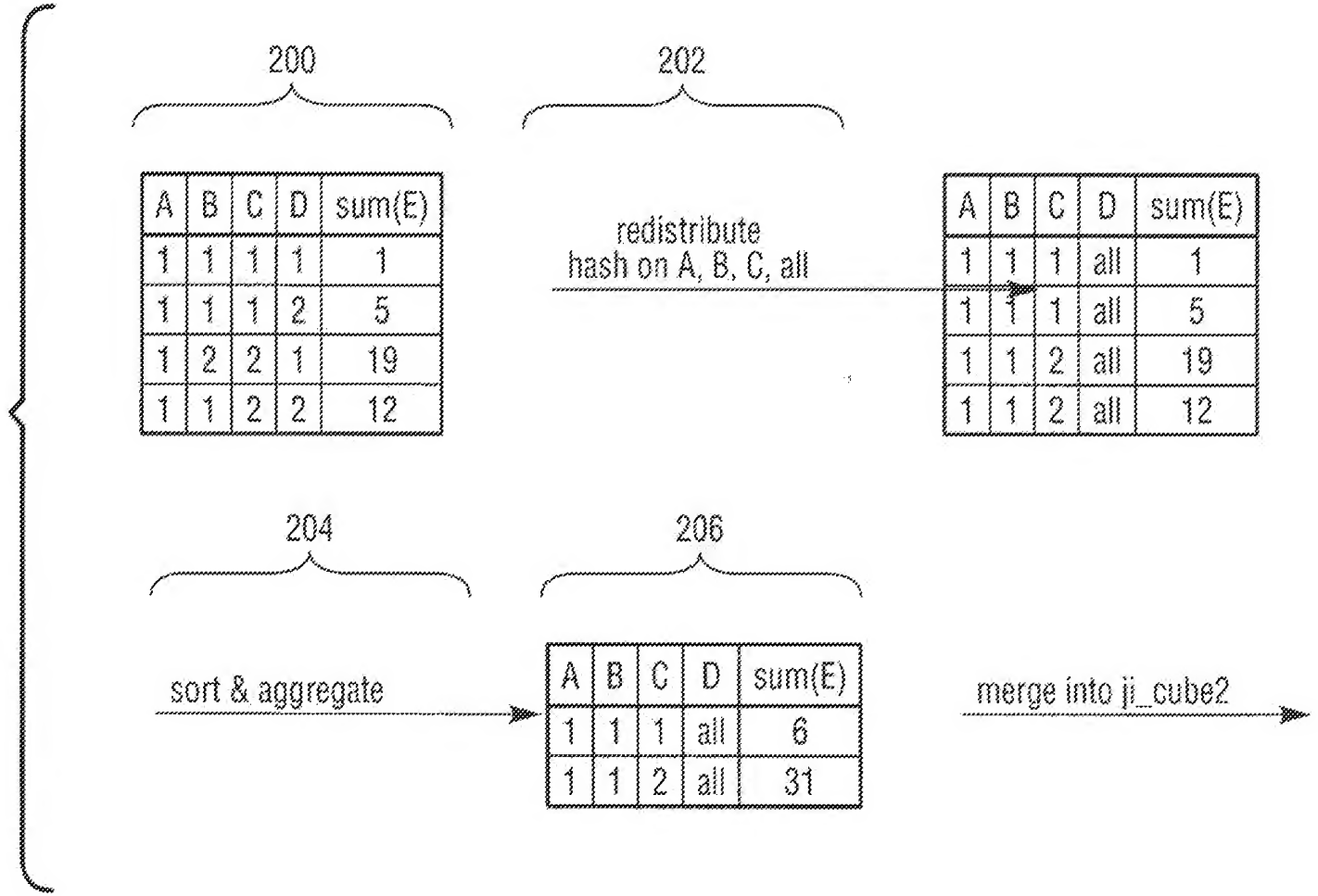


FIG. 2

FIG. 3


200
202
A B C D sum(E)
1 1 1 1 1
1 1 1 2 5
1 2 2 1 19
1 1 2 2 12
redistribute
hash on A, B, C, all
A B C D sum(E)
1 1 1 all 1
1 1 1 all 5
1 1 2 all 19
1 1 2 all 12
204
206
sort & aggregate
A B C D sum(E)
1 1 1 all 6
1 1 2 all 31
merge into ji_cube2

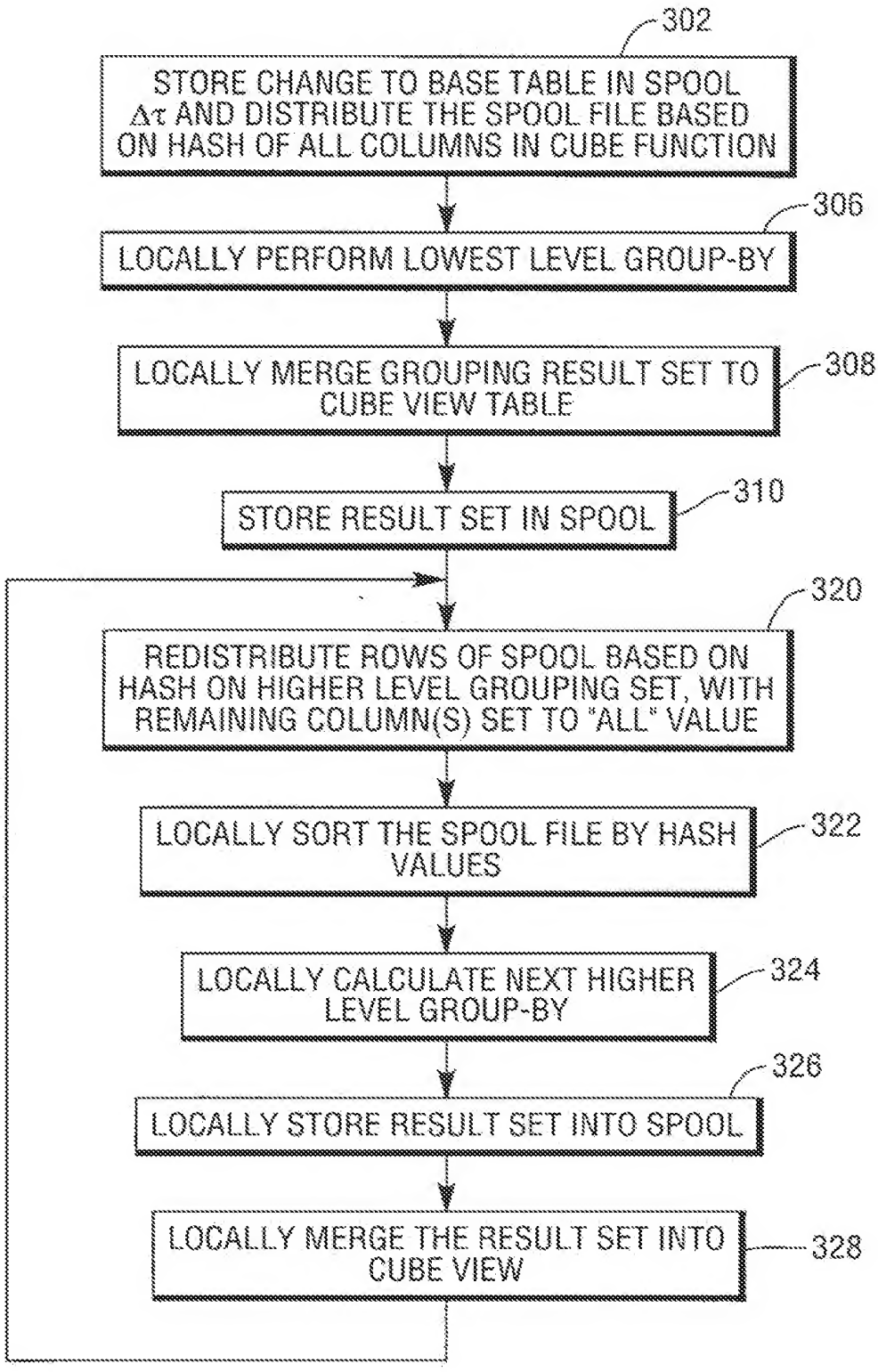

302
STORE CHANGE TO BASE TABLE IN SPOOL Δτ AND DISTRIBUTE THE SPOOL FILE BASED ON HASH OF ALL COLUMNS IN CUBE FUNCTION
306
LOCALLY PERFORM LOWEST LEVEL GROUP-BY
308
LOCALLY MERGE GROUPING RESULT SET TO CUBE VIEW TABLE
310
STORE RESULT SET IN SPOOL
320
REDISTRIBUTE ROWS OF SPOOL BASED ON HASH ON HIGHER LEVEL GROUPING SET, WITH REMAINING COLUMN(S) SET TO "ALL" VALUE
322
LOCALLY SORT THE SPOOL FILE BY HASH VALUES
324
LOCALLY CALCULATE NEXT HIGHER LEVEL GROUP-BY
326
LOCALLY STORE RESULT SET INTO SPOOL
328
LOCALLY MERGE THE RESULT SET INTO CUBE VIEW

FIG. 4